



UNITED STATES DEPARTMENT OF COMMERCE
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SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
07/020,478	03/02/87	NILSSEN	

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EXAMINER	
POWELL, M	
ART UNIT	PAPER NUMBER
266	9

DATE MAILED:

02/03/89

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 11-10-88 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449 | 4. <input type="checkbox"/> Notice of informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474 | 6. <input type="checkbox"/> |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-4, 6-15 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☒ Claims 5 has been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-4, 6-15 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. These drawings are ☐ acceptable; ☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received
☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

Claims 1 and 2 are rejected under 35 U.S.C. 102 (e) as anticipated by or, in the alternative, under 35 U.S.C. 103 as obvious over Miller, of record.

Miller discloses an arrangement comprising a gas discharge lamp means 2 (Fig. 1) having lamp terminals, high frequency converter means (the supply circuit shown), and base means 3, 4 operative to provide support for the lamp and its high frequency circuit. The base means 3, 4 includes an Edison-type screw base 4 adapted to be screwed into a corresponding Edison-type socket and make contact with the socket electrodes therein.

Ostensibly, the parts of the Miller lamp are not detachable depending on the interpretation of the term "fitting" in the reference. However, if the Miller lamp was not detachable, the difference would have been obvious to one of ordinary skill in the art; i.e., to make the parts (non-detachably) integral as claimed because to do so has been held to be an obvious variant of a prior art device, In re Larson, 144 USPQ 347, In re Lockhart, 90 USPQ 214, when the device is otherwise the same.

Claims 3, 4, 6-11, 13 and 14 are rejected under 35 U.S.C. 103 as being unpatentable over Miller, *Supra*, taken with Anderson.

The subject matter of claims 3, 4, 6-11, 13 and 14 are drawn to (or better put, characterize) the high frequency, integral fluorescent lamp unit generalized by claims 1 and 2, but additionally limited to a

half bridge inverter having LC resonant output, with the discharge lamp load connected in parallel with the capacitor of said LC circuit.

Miller does not specify a particular high frequency converter for his which is enumerated 18, thus one of ordinary skill in the art would have been free to select from one of many types such as half-bridge, full appropriate for fluorescent lamp loads.

Anderson discloses a common half bridge inverter having switching transistors Q1, Q2 connected across rectifier 24 and having output terminals at (at least one) capacitor 30 of the series resonant LC output circuit including 28 and 30 L1. As is known, the output voltage and current across 30 is substantially of sinusoidal waveshape; the voltage applied to the LC circuit is square-wave or switched dc at the "center tap" constituted by the junction of the two transistors at 14.

It would have been obvious to one of ordinary skill in the art to employ the Anderson arrangement to fill in the unspecified high frequency oscillator circuit required by Miller because the Anderson circuit is appropriate for one or more fluorescent lamps (which is the only requirement of Miller), and again, because the choice of converter types is left up to the skilled designer by Miller.

Claims 13 and 15 are rejected under 35 U.S.C. 103 as being unpatentable over Miller in view of Anderson as above and further in view of Crane.

Claims 13 and 15 call for a positive feedback circuit in the half bridge inverter which includes a saturable inductor means.

This differs from positive feedback taught by Anderson which employs ordinary control windings at 14 connected from the output to the base circuits of the transistors Q1 and Q2.


Crane teaches the use of saturable inductor means including saturable core transformer 90 on which are wound control windings 96, 98 in Figure 1. The circuit of Figure 1, like that of Anderson constitutes a half bridge inverter employed to drive fluorescent lamps 110.


It would have been obvious to one of ordinary skill in the art to substitute the saturable-inductor, positive feedback arrangement taught by Crane for the ordinary-inductor, positive feedback disclosed by Zuchtriegel because both are available as alternatives for controlling the subject push pull inverter and the saturable type provides for improved reliability by insuring that both transistors are not conducting simultaneously, which would short the source.

Applicant's arguments with respect to claims 1-4 and 6-15 have been considered but are deemed to be moot in view of the new grounds of rejection.

The text of those sections of Title 35 U. S. Code not included in this action can be found in a prior Office action.

Any inquiry concerning this communication should be directed to Mark R. Powell at telephone number 703-557-6835.


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